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CASE

OF

## EXCISION OF THE SPLEEN

FOR

AN ENLARGEMENT OF THE ORGAN, ATTENDED WITH  
LEUCOCYTHÆMIA,

IN A PATIENT UNDER THE CARE OF DR. WILKS

WITH REMARKS.

BY THOMAS BRYANT.



(Reported by Mr. R. EAGER, Clinical Clerk.)

HARLES P—, æt. 20, a groom, was admitted into John d May 30th, 1866, under the care of Dr. Wilks. He s that from a child he has had remarkably good health, has never suffered from any illness. His parents are alive healthy. He was born near to Northampton in a marshy et, but has never suffered from ague. He had lived there is life until a week ago, when he went to reside at Sun- with a gentleman, as his groom. He has led a very ar and temperate life. About five or six months ago he ed a tightness across the upper part of his abdomen, and l that he was inereasing in size, and that, espeecially on the ide, there was a hard mass. From this time the abdomen he hard mass in the side slowly enlarged, the tumour keep- p close to the ribs and xiphoid cartilage, and not reaching



(as now) nearly to the pubes. Within the last few weeks it has left its first situation close to the xiphoid cartilage and to the margins of the cartilaginous portions of the seventh and eighth ribs, and has dropped down into the abdomen. He has been treated at his native place, and appears to have taken large quantities of different medicines, especially quinine; he has also been cupped between the shoulders, but has not improved under any treatment. He has not been incommoded by the tumour in his work, &c., and it has not much troubled his breathing. He has lately lost flesh to a great extent, and has suffered from heaviness at the forehead, dizziness of sight, and ringing noises in the ears, and also from pain between the shoulders. He has never had epistaxis, nor have his legs swollen. His bowels have been regular, and his appetite good.

*Symptoms on admission.*—He is of average height, but of a slight build; his cheek-bones are high, and his cheeks and eyes deeply sunken. His eyelids are delicate and drooping, giving his face a sleepy aspect. His colour is of a peculiar yellow cast, which is extended over the body; the conjunctiva is of a pearly hue. The hair is black and straight. He has some colour in his cheeks, but he says that formerly he was of a much ruddier complexion. His body and limbs are rather wasted. There is an appearance of great listlessness about him, but he will not own to feeling ill or wearied, and says that he does not become quickly tired. However, he lies down a great deal, and sits about the ward, not seeming to care to get out of doors.

Upon examination of the abdomen a large, hard, smooth tumour is felt, passing forwards and inwards from below the ribs on the left side to the right side of the umbilicus for about the space of an inch. It fills up the whole of the left side of the abdomen, leaving a small space above its outer extremity at the right side, between it and the xiphoid cartilage, where the transverse colon is pushed forwards, and a small space below it between its lower border and the pubes. The tumour is very dull on percussion, and the dulness is continued up over the chest as high as the third rib, extending towards the axilla as high as the upper border of the fifth rib, and behind as high as the sixth dorsal vertebra. The dimensions of the swelling are as follows:

	Inches.	
Between the ant. sup. spinous processes of the ilia .....	18	
Between the xiphoid cartilage and the pubes .....	13	
From the most extreme point of the tumour which can be felt to the eighth rib.....	9	} 15 inches the whole length.
From that spot to where the dulness ceases.....	6	
At its broadest part in the abdomen .....	6½	

A notch can be felt in the margin of the tumour, just below the xiphoid cartilage. The upper margin passes from the border of the rib away to the right, above the umbilicus, and is then rounded away to the lower border. The finger can detect the margin easily, and feels it to be rounded and thin. The region of the abdomen over the colon is tympanitic, as also is the right side. There is no fluctuation, and he suffers from no pain. The liver appears to be somewhat enlarged. A slight bruit, probably due to the state of the blood, can be heard with the first sound of the heart. The apex of the right lung appears to be slightly less resonant than that of the left. The tongue is clean, and the pulse normal, but soft. The bowels are regular. The urine appears to be normal, but contains perfectly colourless, beautifully regular rhombic crystals, with rounded angles, mixed with some few coloured crystals, of a lozenge shape, and also flat square-shaped ones, striated at either extremity, with a clear space between. His breathing appears to be but little affected. He had, and still has, a slight cough.

His arm was pricked to obtain a specimen of blood. It was noticed that the blood did not readily flow, and that it coagulated directly. Otherwise it seemed to be healthy, and to possess no peculiar qualities. On microscopic examination

FIG. 1.



The accompanying figure shows the microscopical appearance of the blood. the blood appears at first to consist altogether of white corpuscles, but when it is examined carefully this is found not to



be the case. The white corpuscles, which look somewhat larger than those of healthy blood, are more numerous than the red corpuscles, and are collected together in masses, with the red in rouleaux between them, thus giving, at first sight, the appearance before mentioned. Acetic acid dissolves the red corpuscle, and brings into view in the white corpuscle a large well-defined nucleus, which does not exist in the same state in each corpuscle, but appears in some a single rounded or elongated body, in others as if dividing or divided into two or more portions.

To take for his cough *Misturæ Cascarillæ comp.* ʒj ter die.

He remained in much the same condition until the 7th June, when the report says:—"He does not appear quite well this morning. He seems to be heavy. Tongue foul. Bowels not open for two days. Pulse soft, 100. Skin very pungently hot to the touch. He complains very much of dizziness in his eyes and heaviness in his head. Eyelids puffy. Abdomen rather swollen, appearing more tense than before. He complains of a slight sharp pain, or stitch, over the upper part of the tumour.

To take *Mist. Magnes. c. Magnes. Sulph. bis die donec alvus respondeat.*

8th.—He is still very unwell. He complains of great pain over the tumour. Skin still pungently hot. Pulse 110. Bowels slightly opened. Urine clear, rather high coloured, with a slight deposit of uric acid.

9th.—He is still unwell and restless.

To take *Liq. Morph. m̄v,*  
*Sp. Æth. Chlor. m̄x,*  
*Ex Aquæ Menth. Pip. ʒss; ter die.*

11th.—He is much better and brighter. Bowels not open. The skin continues hot.

To take *Pil. Rhei comp. ij. Rep. mist.*

[During the time since his admission Dr. Wilks often said in the patient's hearing, at his bedside, that an operation might be performed, and that he (Dr. Wilks) was of opinion that no drug would afford him any relief. Dr. Wilks also discussed the question of operation with Mr. Bryant, who was asked to see the case. They coincided in the opinion that there was no

evidenece of any organic disease execept in the spleen ; that any benefit from medicine was, to say the least, doubtful ; and that death was imminent if the disease was left alone. They both regarded the case as a fair one for the removal of the organ. Mr. Bryant then laid the whole question before the patient, telling him of the ineurability of the affection from which he was suffering, and of the prospect of an early death if he was left alone. He explained to the man that reecovery might be secured by the extirpation of the spleen, and pointed out the dangers and the uncertainty of the operation. The patient, however, readily consented to the suggestion, and much desired that the operation should be performed.]

20th.—The operation was performed by Mr. Bryant to-day, in a private room in the hospital, at 2.30 p.m., Mr. Cock kindly rendering assistance. A vertieal ineision, measuring about five inches in length, was made on the side of the tumour, extending from the eartilage of the eighth rib to the anterior superior spine of the ilium, in the line indicated in the drawing.

FIG. 2.



The accompanying figure shows the position of the incision, &c.

When the abdomen was laid open the omentum was seen lying over the spleen. This was raised up and put on one side, and the spleen was exposed, looking of a deep slate colour. Mr. Bryant then introduced his hand along the tumour, between it and the abdominal wall, and found it quite free, with only one small adhesion near its posterior margin. The lower and posterior portion was then lifted out of the abdomen. Just as it was being lifted out there was a flow of blood from it, which did not enter the abdomen, and came from the lower and back part of the spleen. The upper part was then lifted out; and, after a careful examination of the pedicle, a clamp was fastened on. The pedicle was then perforated through the middle by a blunt needle, armed with a whipcord ligature, and tied in halves. The parts were carefully examined as to the existence of hæmorrhage, but none was discovered. The pedicle was therefore returned into the abdomen, the ligatures being cut short off. The wound was closed with silk sutures and a pad of lint applied, slight support to the parts being afforded by means of strapping. At the time of the removal of the tumour out of the abdomen the man's breathing became easier.

3.30 p.m.—He appears quiet and comfortable, and answers cheerfully. His breathing is easy. His pulse is good, but his skin has lost its pungent heat. To take only a little iced water. Suppositorium Morphię statim.

4 p.m.—He looks rather pale, and does not appear to be very warm. Pulse good. Skin moist.

4.30 p.m.—He has asked to be relieved of his water. He looks pale, and is not so warm as he was.

\* Five minutes later, when his water was going to be drawn off, he was found to be cold, his pulse was very low, and he was in a great sweat and very pale. A little brandy was given to him, and hot bottles were applied to his feet. At about 4.50 p.m., his pulse having become imperceptible, he expired, after two or three convulsions.

*Sectio cadaveris*, on June 21st, by Dr. Moxon. — There was no external scar upon the body except that of vaccination and two small punctures on the left arm, which had been made to obtain blood for microscopic examination. The one upon the external surface of the left forearm was rather swollen, and,



upon cutting into it it was found to contain grumous clots infiltrating the areolar tissue around.

*Dura mater and sinuses* were free from morbid contents; the membranes, however, were injected with blood. The brain was firm, and equally so in all parts.

*Right pleura.*—There was a thin semi-tenacious coat of recent lymph, thickest over some patches of lobular pneumonia, which were subsequently found in the lung. There was but little liquid effusion.

*Left pleura.*—This was in a similar condition, but covered more thickly. There was also some turbid liquid filling up about one third or one fourth of the cavity.

*Lungs.*—The whole of the pulmonary tissue had a fawn-pink colour, due partly to anæmia, and every part was easily lacerable. The microscope showed the whole of the tissue, which appeared healthy, to be in a very remarkable state. The distended capillaries were full of white blood-cells, and the epithelium of the air-cells was much more developed than usual, so that the walls of the cells looked thick and were covered with capillary ramifications, the epithelium being seen in the meshes. Some small patches of lobular pneumonia also existed, some of which were in a state of gray hepatization, while others contained sloughs. They showed no tendency to suppurate.

*Pericardium.*—There were two milky patches on the visceral layer, the one near the base, the other near the apex; both were on the anterior surface of the heart.

*Heart.*—This was flaccid. In each cavity there was a clot looking more like strawberry cream than aught else, and of a brick-dust colour. The preponderance of white corpuseles in these clots was plainly manifest to the naked eye. There was no separation of a firm fibrinous clot, as would be the case after death from acute pleurisy; neither was there the emptiness or close contraction of the heart common in death from hæmorrhage. The microscope showed the muscular fibre to be very perfect, very few of the fibres being finely granular, with some yellow pigment here and there around the quadrangular nuclei. The capillaries were full of white corpuseles. The valves were quite healthy.

*Abdomen.*—In the cavity of the abdomen, at its lower part,



on the left side, a large clot of blood was found, weighing about one pound and a half. Water was injected into the aorta for the purpose of finding, if possible, whence the hæmorrhage had proceeded, but without success. The pedicle was examined, and the ligatures upon it were found to be perfectly safe. Above where the ligatures had been applied in the operation, a small piece of that portion of peritoneum which continues the gastro-splenic omentum into the ligament of the liver was seemingly torn. The clot was, like that found in the heart, of a deep brick-red colour, and not of the usual purple smooth and glossy appearance, but dull and granular on the surface; when squeezed it readily broke down into a grumous pulp. It was also peculiarly mottled with a network of a white beaded appearance.

*Stomach.*—Healthy, excepting a few bright patches of capillary ecchymosis.

*Intestine.*—Throughout its whole length the villi and lacteals were most beautifully injected with chyle. The microscope showed the villi to be bare of epithelium and full of fat-granules.

*Receptaculum chyli and thoracic duct.*—Normal. Not full of chyle. The thoracic duct opened into the right subclavian vein instead of the left. There was also a duct on the left side, opening as usual into the left subclavian; this did not enter the thorax, but received a small branch from the upper intercostal space of the same side. The glands generally might be estimated at twice their normal size, but the enlargement was not striking.

*Liver.*—This organ was bloated-looking and flaccid; on section it was yellow and thick-edged, with watery-looking portal fields. There was very little bile in the gall-bladder. The whole weighed 10 lb. 9 oz. The microscope showed the cells to be full of fat. Iodine produced no change.

*Kidneys.*—These were fatty and flaccid, but otherwise appeared to be healthy.

*Bladder.*—This contained about an ounce of cream-coloured urine.

*Testes.*—Both were healthy; there was slight varicocele on the left side.

*Prostate.*—Healthy.

*Spleen.*—This organ was enormously enlarged, especially in its longitudinal diameter, the lower part curving forwards. Longitudinally, it measured 25 in. round; transversely,  $15\frac{1}{2}$  in. round at its widest part. It weighed 4 lb. 7 oz. It was very hard and solid to grasp, feeling much like a lung injected with tallow. The capsule showed patches of a yellowish-white hue here and there; the surface was rather shrunken at these spots. They varied from the one fourth of an inch to an inch in diameter. When cut into they were found to extend into the structure of the organ a little way (for a space about equal to half their breadth), and to be surrounded with a highly injected deep red zone. They were made up of a hard yellowish-white substance; their whole aspect was much like that of the embolic masses sometimes met with in the kidney. They were sixteen or eighteen in number. The spleen on section did not present its usual deep purple-red hue, but was of a paler colour and of a more solid appearance. It was very tough, being torn with difficulty, breaking with a ragged fracture under even pressure, and yielding but little “splenic pulp” when scraped with the knife. Here and there were seen large Malphigian corpuscles. Iodine produced no change in it. Very thin sections, when shaken ever so violently, retained their consistency and became in time pale coloured, and then appeared like pieces of fibre-tissue. Under a  $\frac{1}{5}$ th-objective a very large quantity of fibre-tissue was seen, with very firm fibres uniting and communicating, and having nuclei at some of their junctions. The corpuscles had large nuclei, and some were polynucleated. When water was added nearly every one of them spread itself out by imbibition into a watery cyst, in which a large and well-defined nucleus was situated.

*Remarks.*—Having decided that the extirpation of an enlarged spleen was a justifiable operation under certain conditions, and that it was expedient to make the attempt in a case in which there should be no evidence of disease in any other organ, and in which all treatment by medicine should seem hopeless, I undertook the case which has just been related with some amount of satisfaction, as it appeared to come before us under those very conditions in which such a proceeding could be entertained, and in which some hope of its

success could even be realised. For in this case frequent examinations, carefully repeated, failed to yield any evidence of disease in any organ except the spleen; past experience told us too truly that medicinal treatment is utterly useless when applied to such a disease of the organ as was made out to exist, and it was quite clear to all observers that life could not be prolonged for many months were the disease allowed to run its course.

I am not disposed to go over on the present occasion the arguments which have been employed to justify the operation, for this has already been ably done by my colleague Dr. Wilks, in the last volume of these 'Reports.' It is sufficient for me to state that, to my mind, the facts and arguments he has adduced are sufficiently strong to allow of the operation being undertaken in certain cases with a fair probability of success, for it is true—

“That in the lower animals the operation of removal of the spleen has oftentimes been performed without apparent detriment to their general health.

“That the organ has been removed in man by accident, and without any untoward symptoms resulting.

“That the spleen is often found so shrunk and of so small size that, in all probability, its function has been long in abeyance.”

These facts are indisputable; and if nature herself, by her own processes, at times causes the removal of the spleen without apparent detriment to health, it does not seem unfair to argue that the surgeon is justified in removing the organ when all evidence tends to show that life is threatened by its disease, and its disease alone. In the case under consideration these conditions appeared to exist, and it was on account of them that the operation was undertaken.

*The operation.*—There was nothing in the operation worthy of lengthened remark; it was far less difficult than I had expected, being, in fact, not more difficult than an ordinary case of ovariectomy. The incision selected gave abundant room for all necessary manipulation, and allowed of the ready extraction of the organ without force and without traction. There was but one small adhesion, which passed as a slight band from the upper and posterior portion of the spleen upwards



towards the stomach ; it gave way during the manipulation required to remove the organ ; it was detected when the hand was passed towards the posterior part of the spleen, and it had disappeared when the whole gland was removed from the abdominal cavity ; it appeared to be similar to and was not deemed of greater importance than the slight adhesions which are so commonly met with in ovarian operations.

The neck of the tumour was reached and commanded without difficulty, and great care was taken to make no traction or tension upon the pedicle. Mr. Cock kindly held the organ during this part of the operation and guarded against such a contingency.

The pedicle was at first secured by a clamp while the spleen was being removed ; it was subsequently tied in halves by a sufficiently stout whipcord ligature. A blunt probe was employed to pass the cord, this precaution being observed lest a sharp instrument might wound a vessel, for the fear of hæmorrhage was present with me from the first, and every care was taken to guard against it, although without success. The ends of the ligatures were subsequently cut short off as in ovariotomy, and a careful scrutiny of the pedicle proved that it was safely secured. After the operation all the parts were examined, but no evidence of bleeding was observed, and I take it that the fatal hæmorrhage occurred from some small vessel, and probably from the vessel which the solitary adhesion contained.

After the operation there was no sign whatever of any shock to the system, nor of disposition to collapse. The relief to the man's breathing was immediate, and was very marked ; the pulse rose and was of good power ; the man spoke with force, and expressed himself as being relieved, and when I left him, two hours after the operation, I believed all to have been safe. The sudden death from hæmorrhage was unexpected, and took me by surprise.

The ultimate result of this case was certainly unfortunate, although it tells little or nothing against the operation. Should another example of uncomplicated spleen-tumour, by which the life of the patient is palpably threatened, come into my hands, I shall certainly make another attempt, for from this case I have learnt that the difficulties of the operation are not great ;



that an incision such as I adopted is sufficient to allow of the removal of a spleen of any size ; that the pedicle of the tumour can be readily found, held, and ligatured ; and that the removal of the organ is unattended by any collapse or other immediate depressing influence.

I have also learnt that in a future case it will be well to deal with all adhesions, however slight, as they appear, and with the greatest caution ; for it is still upon my mind that had I done so in the case related a different result might have been secured, and that the hæmorrhage which destroyed the patient might have been avoided.

